

CLAIMS

[1] In a radio communications system having a diversity hand-over function, a radio base station apparatus for transmitting/receiving a signal to/from a mobile station over the air, said radio base station apparatus comprising:

5 a shared resource unit having processing device, as shared resources, for processing a signal of each call; and
a buffer unit for sending a received signal to said processing device of said shared resource unit when the received signal is a signal of a call which is in a diversity hand-over state, such that the received signal can be
10 transmitted at a predetermined timing, and for holding the received signal in a data buffer, when the received signal is not a signal of a call which is in a diversity hand-over state, and for subsequently sending the received signal to said processing device at a timing at which said processing device becomes available.

15 [2] The radio base station apparatus according to claim 1, wherein said signal transmitted/received to/from said mobile station is packet data for a packet communication which allows a delay in the radio communications system.

5 [3] The radio base station apparatus according to claim 1, wherein said received signal is a downlink signal received from a base station controller.

[4] The radio base station apparatus according to claim 3, wherein said processing device of said shared resource unit is an encoder for encoding

the downlink signal to be transmitted to said mobile station over the air in accordance with a predetermined coding scheme.

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[5] The radio base station apparatus according to claim 5, wherein said predetermined timing is specified by a frame number from said base station controller.

[6] The radio base station apparatus according to claim 1, wherein said received signal is an uplink signal received from said mobile station.

[7] The radio base station apparatus according to claim 6, wherein said processing device of said shared resource unit is a decoder for decoding the uplink signal received from said mobile station over the air in accordance with a predetermined coding scheme.

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[8] The radio base station apparatus according to claim 7, wherein said predetermined timing is determined such that a signal decoded by said decoder from the uplink signal received from said mobile station is received by said base station controller at the same timing as the same signal that is received from said same mobile station and that is decoded by other radio base stations through diversity hand-over.

[9] The radio base station apparatus according to claim 1, wherein said shared resource unit and buffer unit are provided for a downlink signal to be transmitted to said mobile station over the air, and are provided for an uplink signal received from said mobile station over the air, respectively.

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[10] The radio base station apparatus according to claim 9, wherein:

said shared resource unit for the downlink signal comprises an encoder, as said processing device, for encoding the downlink signal in accordance with a predetermined coding scheme,

5 said buffer unit for the downlink signal sends the received signal to said encoder of said shared resource unit for the downlink signal, when the received signal from said base station controller is a signal of a call which is in a diversity hand-over state, such that the received signal can be transmitted to said mobile station at a timing specified by a frame number from said base
10 station controller, and said buffer unit temporarily holds the received signal in the data buffer when the received signal is not a signal of a call in a diversity hand-over state, and subsequently sends the received signal to said encoder at a timing at which said encoder becomes available,

 said shared resource unit for the uplink signal comprises a
15 decoder, as said processing device, for decoding the uplink signal in accordance with a predetermined coding scheme, and

 said buffer unit for the uplink signal sends the signal received from said mobile station to said decoder of said shared resource unit for the uplink signal, when the received signal from said mobile station is a call which is in
20 diversity hand-over state, such that the signal received from said mobile station and decoded by said decoder can be received by said base station controller at the same timing as the same signals that are received from said same mobile station and that are decoded by other radio base stations through diversity hand-over, and said buffer unit holds the received signal in said data buffer,
25 when the received signal is a signal of a call which is not in a diversity hand-over state, and subsequently sends the received signal to said decoder at a timing at which said decoder becomes available.